IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Ni	Examiner: Divecha, Kamal B
Serial No.:	09/982,794	Group Art Unit: 2151
Filed:	October 22, 2001	Docket No.: 0063-060001/BU1911
Title:	DATA PATH OPTIMIZATION ALGORITHM	

Mail Stop Appeal Brief – Patents
Commissioner for Patents
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REPLY BRIEF

(1) Identification

The identification page as required by 37 CFR 41.37(c) is provided herein by way of the above-identifying header.

(2) Status of claims

Claims 1-13 are the subject of the appeal. The Examiner has maintained the previous rejection(s) of all claims. Specifically, claims 1-13 are rejected under 35 U.S.C. §112(2) as being indefinite, and claims 1-13 are further rejected under 35 U.S.C. 103(a) as set forth below.

(3) Grounds of Rejection

35 U.S.C. §112(2)

Claims 1-13 are rejected under 35 U.S.C. §112(2) based on alleged unclarity as to whether the claim scope encompasses data packets in packet switching environment, Ethernet, orATM environment, again allegedly because the "…teachings of packet-based receiving and cell-based receiving are distinct in the art…(and)…it is unclear whether the receiving is with respect to full data packet and/or data packet which are divided into cells and received as cells." See Examiner's Answer, page 4.

35 U.S.C. §103(a)

Claims 1-4, 6-8, and 10-12 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Applicant's Admitted Prior Art (AAPA) and/or Thompson (European Publication No. EP 0572145 A2) ("Thompson") in view of Scott (U.S. Patent No. 6,512,773) ("Scott"), and further in view of Parruck, *et al.* (U.S. Patent No. 7,139,271) ("Parruck"). Claims 5, 9 and 13 stand rejected under 35 U.S.C. 103(a) as being obvious over Thompson in view of Scott and further in view of Parruck and further in view of Yik (U.S. Patent No. 6,697,873) ("Yik").

(4) Arguments

All arguments in Appellant's Appeal Brief ("Appeal Brief"), filed February 10, 2009, are herein incorporated into this Reply to Examiner's Answer.

35 U.S.C. §112(2).

With respect to the rejection of claims 1-13 under 35 U.S.C. §112(2), Appellant submits that this rejection was addressed in the response to the Final Office Action, which was filed on September 15, 2008. As noted in the Appeal Brief filed on February 10, 2009, the Advisory Action of September 25, 2008 failed to respond thereof. Appellant points out that MPEP §707.07(f) states, "In order to provide a complete application file history and to enhance the clarity of the prosecution history record, an examiner must provide clear explanations of all actions taken by the examiner during prosecution of an application … (w)here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and **answer the substance of it**." Here, the rejection under 35 U.S.C. §112(2) was traversed, yet the subsequent Advisory Action failed to answer the substance of the traversal or to address the traversal at all. Therefore, Appellant rightfully concluded that the rejection had not been maintained for purposes of Appeal.

For purposes of clarity and completeness, Appellant here notes that the referenced rejection alleges unclarity as to whether the claim scope encompasses data packets in packet switching environment, Ethernet, or ATM environment, again allegedly because the "…teachings of packet-based receiving and cell-based receiving are distinct in the art…(and)…it is unclear whether the receiving is with respect to full data packet and/or data packet which are divided into cells and received as cells." See Examiner's Answer, page 4. As pointed out in Appellant's response of September 15, 2008 at page 9, the claim language is clear on its face that the recited devices and method receive "…a data packet comprising a plurality of cells." Whether "the art" contemplates examples in which data packets may or may not contain cells does not render Appellant's claims indefinite. One of ordinary skill in the art would understand that claims 1-13 contemplate receipt of "…a data packet comprising a plurality of cells" and that any such data packet processing according to claims 1-13 would be within the scope thereof, regardless of the associated protocol(s) used in a particular implementation. Indeed, the Final

Office Action itself notes that "'…a data packet comprising a plurality of cells…' is utilized **in either ATM network and/or packet-switched network such as Ethernet**, Fast Ethernet, etc." (emphasis in original); see Final Office Action at page 6).

35 U.S.C. §103(a)

With regard to the rejections of independent claims 1, 6, and 11, Appellant reiterates the arguments previously provided in the Appeal Brief of February 10, 2009, with reference below to the Examiner's response thereto in the Examiner's Answer of May 7, 2009, with the arguments being clarified and supplemented in response to the Examiner's Answer as set forth below.

For example, Appellant's claim 1 recites:

> A network device configured to prevent data misalignment of a data packet containing extra header bytes, the network device comprising:
> an ingress module having an input interface to receive a data packet comprising a plurality of cells, wherein a header cell of the data packet is one of the plurality of cells of the data packet, wherein the header cell of the plurality of cells comprises a header and packet data information and wherein the header cell includes the header in its entirety for the data packet;
> a header detector configured to detect the header cell of the data packet and remove the header from the header cell of the data packet;
> a counter configured to determine whether the header cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed from the header cell;
> an insertion module configured to insert null bytes into the header cell of the data packet to form a modified header cell of the data packet if the counter determines that the header cell of the data packet does not satisfy the multiple of the predetermined number of bytes in order to align all of a plurality of other cells of the packet; and
> an extraction module configured to remove the null bytes from the modified header cell of the data packet as a modified cell of the data packet exits the network device.

In Appellant's previous responses and in the Appeal Brief filed February 10, 2009, Appellant identified at least the following deficiencies of the above-referenced rejection of claim

1. Specifically, Appellant has pointed out that neither Scott nor Parruck (nor any proper combination or modification of the two) discloses or renders obvious at least "a counter configured to determine whether the header cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed from the header cell," as recited in claim 1 and as alleged by the present rejection, and that the cited prior art teaches away from any proposed modification thereof by Scott/Parruck to arrive at Appellant's claimed invention.

In the following, Appellant addresses section "(10) Response to Arguments" of the Examiner's Answer of May 7, 2009, which begins at page 11 thereof.

Beginning at page 12, the Examiner's Answer attempts to characterize Thompson in response to the arguments in the Appeal Brief. In so doing, the Examiner's Answer relies on alleged acknowledgements/stipulations of the Appellant from Appellant's response of April 10, 2008. However, as set forth in Footnote 1 at page 18 of the Appeal Brief, Appellant disagrees with such characterizations of Appellant's statements and disavows such statements to the extent taken as anything more than mere summary of Thompson, and submits that therefore reliance on Thompson can and should be made directly thereon.

In particular, the Examiner's Answer alleges that Thompson discloses (and alleges the Appellant stipulates to) "prevent(ion of) data misalignment of a data packet containing extra header bytes." In fact, Thompson discloses "…a network packet having a plurality of headers. The network adaptor inserts at least one pad byte within one of the plurality of headers to cause the plurality of headers …to be aligned along predetermined multi-byte boundaries." See Thompson, col. 1, lines 25-38. Compare FIGS. 3 and 4 of Thompson, where pads 115 of FIG. 4 are inserted between DSAP 114 and SSAP 116 to align IP header 120 and header(s) 121.

Thompson further discloses that the quantity/extent of the pads 115 are determined "**based on the value of the destination service access point (DSAP)**." See Thompson, col. 1, lines 39-56; also see Thompson, col. 4, lines 43-50). Further, although Thompson discloses "…separation of headers and data during the transfer of incoming packets from network adapter 12 to memory 11," (See Thompson, col. 4, lines 13-18), Thompson also discloses that "…an inbound packet 80 …(is examined)… for the DSAP field …once found, the frontplane LCA 45 inserts pad bytes, based on the value of the DSAP…**After the pad bytes are inserted**…DMA

controller LCA 43 moves the data into a slot in slot memory 44" See Thompson, col. 11, lines 36-51.

The Examiner's Answer goes on at pages 13-15 to discuss Parruck for general teachings of ATM and cell-based transport. As in the rejection of claim 1, Parruck appears to be cited merely for such general teachings of a data packet having a plurality of cells and a header cell (For example, in rejecting claim 1, the Examiner's Answer at page 7 states, "Thompson in view of Scott does not disclose a data packet comprising a plurality of cells including a header cell, wherein the header cell of the plurality of cells comprises a header and packet data information and wherein the header cell includes the header in its entirety for the data packet (please note: Scott inherently discloses the limitation because Scott is related to ATM networks, however, in order to establish a proper prima facie case, Parruck is introduced)."

The Examiner's Answer goes on at pages 15-16 to argue that "Scott teaches and discloses a counter as in claims 1-13." In fact, as pointed out in Appellant's previous responses and in the Appeal Brief, Scott does not inherently disclose the header as claimed, and merely discloses, at best, counting of a payload and "…add(ing) pad characters to make the AAL5 frame equal an integer number of 48 octet cells," and does not disclose counting a remainder of a header cell **after** the header has been removed, where the header is the header in its entirety for the data packet as recited in claim 1. In fact, FIGS. 4A and 4B of Scott illustrate that the header 91 is merely the header for a particular cell, and not for the composite data packet as recited in claim 1. Even if Parruck or another reference illustrates such headers in their entirety within cells for data packets, the fact is that Scott does not disclose or suggest such a header nor does Scott disclose or suggest the removal of such headers **prior to** counting a remainder of such a header cell, as recited in claim 1. Moreover, FIG. 5C of Scott discloses (e.g., blocks 232 to 236) that any counting and associated padding that may occur in Scott occur(s) **before** any extraction of the 4 octet ATM header (see, e.g., block 239 of FIG. 5C).

The Examiner's Answer goes on at page 16 to state that "By applying the combination of Thompson and Scott to a system and network in Parruck ... the combination would result in … " (Appellant's claim 1). Appellant submits that this statement is merely an example of conclusory, hindsight reasoning which is then followed by a generic recitation of KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d 1385. After reproducing certain portions of the

Appeal Brief, the Examiner's Answer references FIGS. 3A and 4A of Scott and comes to the conclusion at page 20 that "appellant asserts that Scott does not disclose using a counter to determine whether the header cell of the data packet contains multiple of a predetermined number of bytes after the header has been removed from the header cell."

Indeed, Appellant does assert that Scott does not disclose the claimed counter. The Examiner's Answer states at page 21 that "…Examiner's analysis was … that if the counter in Scott can count the user pdu portion of the data packet … then the counter can be adopted, for counting the header cell after the header has been removed…" The Examiner's Answer at page 22 states "(i)t appears appellant is arguing that there is no reason, suggestion, and/or motivation for the combination."

In fact, what Appellant has specifically argued is that there is a clear internal inconsistency within the above rejections and rationales, because the argument is made on the one hand that "Scott teaches and discloses the counter of claims 1-13" and on the other hand that Scott's counter "can be adopted" to disclose (i.e., render obvious) the counter, e.g., of claim 1. In other words, the rejection appears at first to argue for the modification of Thompson with Scott (and Parruck), but then appears to argue for the modification of Scott by itself to obtain "modified Scott," which is then used to modify Thompson (and Parruck). Thus, in the latter case, the rejection appears to attempt to collapse two stages of analysis into one, and in so doing fails to provide the required articulation of the reasons why claim 1 is alleged to be rendered obvious.

In particular, the rejection(s), including the above-referenced arguments in the Examiner's Answer, amount to a line of reasoning that (1) Thompson, Scott, and/or Parruck recognize one or more problems related to the general area of data misalignment (but not the specific problem(s) identified by Appellant), (2) Thompson, Scott, and/or Parruck disclose certain elements or processes which are alleged to disclose or suggest out-of-context versions of portions of elements of claim 1, and (3) therefore, it would have been obvious to create Appellant's invention to prevent data misalignment.

Appellant respectfully submits that such reasoning is short of the reasoning required to establish a proper prima facie case of obviousness. For example, none of Thompson, Scott, the proposed modified version of Scott, or Parruck provide any teaching or suggestion of

determine(ing) whether the header cell of the data packet contains a multiple of a predetermined number of bytes **after** the header has been removed from the header cell. To the contrary, as described above, Thompson discloses adding pad bytes 115 within/among a plurality of headers, based on contents of one of the headers (e.g., the DASP) and then separating the data therefrom. Scott itself discloses extracting the header 91 of that reference after providing pad bytes to the PDU 71. Therefore, even if *arguendo* Parruck or another reference discloses the claimed "header cell of the plurality of cells comprises a header and packet data information and wherein the header cell includes the header in its entirety for the data packet" as recited in claim 1, Appellant submits that neither Thompson, nor Scott (nor any modified version of Scott) would have suggested the claimed "counter configured to determine whether the header cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed from the header cell," as recited in claim 1.

To the contrary, as previously pointed out, Thompson teaches away from such a modification(s) for the reasons just discussed. In this regard, Appellant understands that the Examiner's Answer takes the position at page 25 that Thompson constitutes a "…mere disclosure of more than one alternative …(and) … does not criticize, discredit or otherwise discourage the solution claimed."

Appellant respectfully disagrees and maintains that Thompson teaches away from the proposed combination. "'A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.' n re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994); see KSR, 127 S. Ct. at 1739-40, with emphasis added. Here, Thompson would have lead in the direction of adding pads within/among existing headers based on content thereof and then separating data portions therefrom, which is clearly divergent from removing a header from a header cell and adding null bytes to the remainder of the header cell based on "whether the header cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed from the header cell," as recited in claim 1.

Similarly, Scott discloses (as set forth above) addition of pad bytes to PDU 71 prior to removal of any header (much less the claimed header as recited in claim 1, which is not shown in

Scott), which again leads to the described data alignment in a divergent direction from the claimed recitation of removing a header from a header cell and adding null bytes to the header cell as just referenced above and as recited in claim 1.

Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Thompson, Scott, nor Parruck, whether taken singly or combined, teaches or suggests each feature of claims 1, 6, and 10. Respective dependent claims 2-5, 7-9 and 11-13 depend on claims 1, 6, and 10 and should be allowed at least because of their dependence on claims 1, 6, and 10.

Conclusion

Appellant respectfully submits that all the pending claims 1-13 in this application are patentable and requests that the Board of Patent Appeals and Interferences direct the Examiner to withdraw the rejections and move the application to allowance.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-3521, referencing attorney docket number 0063-060001.

Respectfully submitted,

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